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THE INTEGRATION OF GIFTED STUDENTS

A study guide to the ninth program in the ACCESS television inservice series
ONE GIANT STEP: The Integration of Children With Special Needs





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THE INTEGRATION OF GIFTED STUDENTS

A study guide to the ninth program in the ACCESS television inservice series ONE GIANT STEP: The Integration of Children With Special Needs



ONE GIANT STEP: The Integration of Children With Special Needs is a ten-program, inservice series of videotapes. Each videotape has a running time of 15:00 minutes and is supplemented by a study guide. The program order numbers and titles are:

BPN 2154 01 Introduction

02 The Integration of Dependent Handicapped Students

03 The Integration of Trainable Mentally Handicapped Students

04 The Integration of Educable Mentally Handicapped Students

05 The Integration of Learning Disabled Students

06 The Integration of Visually Impaired Students
07 The Integration of Hearing Impaired Students

08 The Integration of Physically Handicapped Students

09 The Integration of Gifted Students

10 The Integration of Behaviorally Disordered Students

(If you send a blank tape to the ACCESS NETWORK Media Resource Centre, there is no charge. If you prefer to buy tape from ACCESS, please send a purchase order to the Centre.)

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PROGRAM SUMMARY

This program provides insights into the area of gifted education, dispelling many of the stereotypes that are often associated with the gifted student.

Shane and Michelle join forces to learn from each other and to conquer the mystery of computers by developing their own programs.

Nada and Gina, when given a choice for a research project, decide to interpret the sea, not through knowledge transferred from the pages of encyclopedias, but rather by creating its mood and spirit through music and motion. The result of this non-traditional approach to learning is "creativity in action."

The gifted are presented throughout not as "brain-banks", but rather as individuals with personal and creative potential, as well as intellectual potential.

PROGRAM GOALS AND OBJECTIVES

This program is designed to help teachers, parents, school administrators, and others to gain background information on gifted students. It can be used as a base for effective integration of these students into the regular classroom environment.

As a result of inservice, participants will be able to:

- **1.** define "gifted" and identify the characteristics of gifted students in terms of:
 - a. physical characteristics
 - b. socio-emotional characteristics
 - c. intellectual characteristics.
- identify the relevance of the Cascade Service Delivery Model in integrating gifted students.
- describe teaching techniques that could be used in teaching gifted students in an integrated setting.
- 4. list and describe, in general terms, resources, support services, and programs necessary to facilitate the education and integration of gifted students.

BACKGROUND INFORMATION FOR THE TEACHER OR WORKSHOP LEADER

The gifted student is one who has been identified by a qualified professional as having outstanding abilities and as being capable of high performance. Like all exceptional students, the gifted student will require special programming to make the most of his/her demonstrated achievement or potential abilities in one or more of the following areas:

- GENERAL INTELLECTUAL ABILITY—
 intellectual ability superior to that of other
 students in the school
- SPECIFIC ACADEMIC ABILITY—academic aptitude in a specific subject area superior to the aptitudes of other students
- CREATIVE THINKING—increased ability to use novel ways of finding solutions to problems
- d. LEADERSHIP ABILITY—assumption of leadership roles and acceptance by others as a leader and co-ordinator
- VISUAL AND PERFORMING ARTS
 ABILITY—outstanding performance in
 aesthetic production in graphic arts, sculpture,
 music, or dance.
- f. PYSCHOMOTOR ABILITY—superior mechanical skills or athletic ability
- g. HUMAN RELATIONS ABILITY—effectiveness in dealing with others, to the point of facilitating constructive and positive personal development in them.

CHARACTERISTICS OF THE GIFTED STUDENT

The following lists were compiled from several sources. They do not reflect an official viewpoint, and certainly not all of the characteristics will be found in the heterogeneous group of students who comprise the gifted population.

1. Physical characteristics

There is no medical consensus that gifted students differ from normal students in physical makeup. Some professionals, however, say that the gifted may be healthier, larger, more physically mature, and stronger than the average student.

2. Socio-emotional characteristics

- —often associates with older students, i.e., of the same mental age
- -may have a keener sense of humor
- -may display an ability for self-criticism
- -will demonstrate leadership abilities
- -generally plays well with others
- —will be more interested in the games of older students, particularly such organized games as chess
- —enjoys outdoor games, the same as average students
- -may enjoy sedentary activities by themselves
- —may create more imaginary playmates than most children.

3. Intellectual characteristics

- -tends to have a longer attention/interest span
- —has the quality of intellectual and sustained curiosity
- —will probably have superior verbal skills and a large vocabulary; will demonstrate a keen interest in words and ideas
- may display objective viewpoints and an unusual ability to think without bias
- —will probably learn rapidly and retain more of that information than is average
- —shows ability to think logically and abstractly; will be interested in structure and order, cause and effect
- —may become impatient with routines and drills; will demonstrate a need for freedom of exploration and challenge
- -works well independently
- usually begins to read earlier than peers;
 language development is more advanced;
 reading ability and comprehension remain high
- applies original and intuitive thought in worthwhile tasks, often revealing a vivid imagination; able to adapt, change, and experiment fluidly
- —may have uneven grades in different subject areas, e.g., excels in math but not in language
- -may be unusually sensitive and empathetic
- —tends to develop independence and selfreliance at an early age
- —will probably display a diversity of interests and a wide range of abilities.

THE CASCADE SERVICE DELIVERY MODEL

Integration is viewed along a continuum ranging from a segregated institutional setting to full-time placement in a regular classroom with all the intermediate steps suggested in the Cascade Service Delivery Model.

There are several approaches to integrating gifted students. These include:

- —acceleration in the regular classroom setting.
- -placement in a full-time gifted program.
- placement in an enrichment program for part of the time.
- involving the student in enrichment activities while in the regular classroom.
- —having a consultant work with the student on an itinerant enrichment basis.
- having a consultant and school counsellor work with the student within an itinerant enrichment program.
- —allowing the student to engage in communitybased learning experience.

Integration begins with a thorough preparation of staff and all those involved in the educational process. Preparation should include activities designed to develop positive attitudes toward gifted students: inservice for all; flexible sensitive administration; and parental support.

TEACHING TECHNIQUES

Because no specific curriculum for gifted students exists in Alberta, teaching techniques will vary widely. However, Dr. Joseph Ranzulli, one of the most prominent experts in gifted education, suggests certain experiences to be essential. The following is based on his Enrichment Triad Model.

1. General exploratory experiences

This type of enrichment is designed to bring the student into touch with a wide variety of topics in which he or she may have a sincere interest. These experiences should enable the student to make decisions about topics to be explored in greater depth and at higher levels of involvement.

CASCADE SERVICE DELIVERY MODEL*

Regular classrooms with special-education instructional materials and/or aide. (Regular teacher retains full responsibility for each student's individual program and progress.) Regular classrooms with special-education instructional materials, plus special-education consultative services to regular teacher. Regular classroom with itinerant or school-based special education tutors. (Regular teacher retains full responsibility for each student's program and progress. Can obtain advice, etc. from itinerant teacher.) Regular teacher retains full Regular classroom, plus special-education responsibility. Child obtains intensive, short-term remedial resource room and teacher work in resource room. Regular classroom, plus Regular teacher retains repart-time special class sponsibility. Child may obtain long-term support in the special class. Pupil-Teacher Full-time special class Pupil-Teacher Special-education teacherratio ratio full responsibility. Integradecreases increases tion—wherever appropriate Same as above Combination regular and special day school: no academic instruction in regular class Special day school Same as above Special board-Same as above ing school or residential facility Hospital school Same as above Home-based Same as above instruction

^{*}Adapted from the Reynolds framework (1962)¹, the Dunn model (1963)², and the Deno cascade model of special education services³

¹Reynolds, Maynard C. "A Framework for Considering Some Issues in Special Education" in Exceptional Children, Vol. 28, No. 7, March 1962, p. 368.

²Dunn, Lloyd M., ed. Exceptional Children in the Schools: Special Education in Transition. New York: Holt, Rinehart, Winston, 1963, p. 37.

³Deno, Evelyn. "Special Education as Developmental Capital" in Exceptional Children, Vol. 37, No. 3, November, 1970, p. 235.

Dr. Renzulli suggests the development of subject-area interest centres in the classroom, library, or resource room. These centres should include descriptive information about particular fields of knowledge.

Gifted students should become familiar with a variety of reference materials, both print and non-print. These could include dictionaries, encyclopedias, reviews, reader's guides, art prints, records, slides, etc.

The exploratory experience should include field trips, where students are given an actual chance to interact with various people and situations.

2. Group training activities

This type of enrichment consists of methods, materials, and instructional techniques that are mainly concerned with the development of thinking and feeling processes. The important component is training exercises, e.g., brainstorming, observation, classification, interpretation, analysis, evaluation, comparison, categorization, synthesis, fluency, flexibility, and originality.

3. Individual and small-group investigation of real problems

Students should have the opportunity to investigate real problems and collect their own data. This type of enrichment consists of activities in which the student becomes the actual investigator of real problems by using appropriate methods of enquiry. Success will depend on the degree of motivation and task commitment that the student brings to the investigation.

The method of presenting the fruits of their investigative work will also motivate and enhance the way the work is done. The teacher should identify the appropriate outlet, and outlets should range from the local newspaper to presentations to various school audiences.

CONTENT OF EDUCATIONAL PROGRAMS

Since there is a lack of specific curricula for gifted students, the content will vary widely from classroom to classroom, from school system to school system. The following are samples taken from existing programs for the gifted. For more information, it is suggested teachers contact their local board office.

Objectives of the educational program

Edmonton Public enrichment program for elementary pupils

The student:

- **1.** develops productive thought processes through a creative training program.
- develops critical/abstract thinking skills with special emphasis on analysis and evaluation.
- **3.** develops research and independent study skills through inquiry techniques.
- 4. develops effective, oral communication skills through informal discussions, seminars, public speech and debate.
- **5.** develops an appreciation and understanding of cultural heritage, specifically in art, sculpture, music, poetry, children's literature, and science.

Project for Extending Advanced Children's Education (P.E.A.C.E.)

Willow Creek School Division

This program:

- assists gifted students in developing insight into themselves in terms of their uniqueness and aids them in learning to respect others and co-operate with peers.
- develops the creative potential of identified gifted students, specifically through the four components of creative thinking: originality; elaboration; fluency; and flexibility.
- assists teachers to become aware of specific talents or areas of giftedness in students.

SERVICES FOR THE GIFTED

INSTITUTION OR AGENCY

Action for Bright Children Barbara King-President

2311 - 12 St. S.W., Calgary, Alberta T2T 3N7

Phone: 245-1642

Alberta Association for Bright Children

Mr. Bart Eisen-President

Box 310, Smoky Lake, Alberta T0A 3C0

Phone: 424-7103 (business) 656-3730 (business) 656-4224 (home)

Association for Bright Children

Mr. Bob Coe-President

4712 - 36 Ave., Edmonton, Alberta T6L 3C3

Phone: 427-2127 (business) 463-8240 (home)

Calgary Board of Education **Enrichment Assistance Services** Mrs. Georgina Adamson—Supervisor 64 - 12 St. N.E., Calgary, Alberta T2E 4P4

Phone: 233-9200

Calgary Catholic Board of Education

Education Plus

Mrs. Yarmilla Dvorack-Project Manager 300 - 6 Ave. S.E., Calgary, Alberta T2G 0G5

Phone: 298-1411

Calgary Institute for Gifted and Talented Students

Contact: Mrs. Donnie Jenkins

2343 Uxbridge Drive N.W., Calgary, Alberta T2N 3Z8

Phone: 282-0761

Council for Exceptional Children, Gifted Division Department of Educational Psychology

Rehabilitation Resource Centre

University of Calgary

2500 University Drive N.W. Calgary, Alberta T2N 1N4

Phone: 284-7511

Edmonton Catholic School District

Student Services

Mr. Don Delany-Consultant, Programs For Gifted Students

10019 - 84 St., Edmonton, Alberta T6A 3P8

Phone: 468-3434

Edmonton Public Schools Centre For Education

1 Kingsway, Edmonton, Alberta T5H 4G9

Phone: 429-8000

Contact: Mrs. Marian Stelmaschuk, Consultant

Adrienne Coull, Consultant June Mielnichuk, Consultant

SERVICE PROVIDED

Parent groupworkshops, outings, meetings

Parent group-

offers information on starting groups and has list

of existing groups

Parent group—

workshops, outings, meetings

Provides direct assistance to school staff so that needs of gifted children who remain in their regular school placement can be appropriately met

Provides program information and consultative assistance

Working with schools to provide "Olympics of the Mind"-science/literature/art competitions along the same lines as the World Athletic Olympics

Resource information service

Provides program information and consultative assistance

Provides program information and consultative assistance

PREVIEWING QUESTIONS

These questions are designed to allow participants to explore their feelings toward the gifted. For maximum benefit, it is suggested participants discuss one or more of the questions in a small group setting, then report back to the larger group.

- 1. The character Dietrich on the Barney Miller television show is a stereotype of a gifted individual. Do you think the portrayal is accurate? Can you recall some of the situations in which Dietrich riled his coworkers with his knowledge? Is Dietrich a likeable person? Why or why not?
- 2. Can you recall people you went to school with, or have worked with, who might have been considered gifted? What were some of the labels attached to them by their peers? How did their peers react toward them?
- 3. You overhear your own children discussing the class "brain" with some resentment. What might be the cause of that resentment? How can you help them to become more understanding and accepting of the gifted?
- 4. Discuss the following statement:

"The future of our country, the very survival of our nation, and of our way of life, depends upon the values, patterns of behavior, analytical and problem-solving skills, and the creativity fostered in children and youth in the upper 2% of general mental ability."

D. Weiler (Nov./78 Phi Delta Kappan)

PREVIEWING ACTIVITIES

These activities are intended to allow participants to have an awareness of what being gifted is like, to appreciate some of the special needs and problems of the gifted, and to begin to look at solutions for overcoming those problems. To facilitate the effectiveness of these simulations, it is necessary for the workshop leader to be familiar with the activities beforehand.

The participants should be arranged in small groups and rotated through all the activities.

1. It's Too Easy

The gifted are all too often faced with situations that are far too easy for them. They may learn

on the first attempt something that the rest of the class will have to spend several days practising.

Materials: pencils; Handout 1.

Activity: Give participants copies of the Handout. Tell them they have five minutes to complete it. When they are finished, ask them to sit quietly until the five minutes are up.

Distribute the same Handout again. Tell the participants that you are ensuring that they know how to do the problems. Give them three minutes to complete them, again telling them to sit quietly until the time is up.

Variation: Dictate a list of simple problems, leaving far too long for the participants to write down their answers. Follow the same procedures as above.

Invite participants to discuss the following:

How did this activity make you feel the first time you did it?

What was your reaction when you were asked to do it again?

How do you think teachers can overcome problems like this?

2. How Come You're So Smart?

Knowing all the answers is not as easy as this may appear. Often, the degree of knowledge will make the gifted student an outsider, the object of labelling and ridicule.

Materials: Handout 2 (to one participant only).

Activity: Choose one participant. Give Handout 2 to that person. Ask him or her privately to respond to all your questions (below), using the answers in the Handout, but not making this obvious.

Tell the group that you are doing an exercise in mental thought processes, as well as a test of general knowledge. Ask the following questions rapidly, without repeating any portion of the question.

- 1. What is 16 × 33? (Answer: 528)
- 2. What is 2 + 18 + 3 + 4 + 6? (Answer: 33)
- 3. How do you spell "microcephaly"?
- What does "microcephaly" mean? (Answer: an abnormal smallness of the head, often associated with pathological mental conditions)
- 5. Who made the following statement: "Imagination is more important than knowledge."? (Answer: Albert Einstein)

HANDOUT 1: IT'S TOO EASY

When you have completed your paper, please sit quietly until the rest of the group has completed theirs, and until the leader/teacher gives you further instructions.

HANDOUT 2: HOW COME YOU'RE SO SMART?

Answers

- 1, 528
- 2.33
- 3. microcephaly
- 4. an abnormal smallness of the head, often associated with pathological mental conditions
- 5. Albert Einstein

Invite participants to discuss the following:

Explain to the group that the individual who answered all the questions was "planted." Ask how they were beginning to feel about that person. Is he or she the sort they would have chosen to go for coffee with?

Ask the person who was planted how he or she felt. Embarrassed? Beginning to feel like not being so smart after all?

Have the group discuss how to overcome some of the problems related to being gifted.

POST-VIEWING QUESTIONS

These questions are designed to reinforce the program goals. The questions may be directed either to the total audience or to small groups.

- 1. What do Shane and Michelle have in common with their peers?
- 2. How do gifted children benefit from being with their peers? Are there advantages to the nongifted as well?
- Describe, in general terms, some of the resources and services needed to work with gifted students.
- 4. Outline briefly the three "types" that make up the Enrichment Triad Model.
- 5. You are in a position to accept a gifted student in your school program. What do you feel will be the major obstacles to integration? How could you overcome those obstacles?

POST-VIEWING ACTIVITIES

These activities are designed to give participants exercises and activities that can be used in learning situations with gifted students.

1. Birdie, Birdie

The following exercise (suggested by Mrs. Georgina Adamson, Calgary Board of Education) can be used to develop divergent thinking skills and also illustrates fluency, flexibility, and originality.

Materials: pencils and paper.

Activity: Organize participants into small groups. Give each group three minutes to generate as many bird names as possible.

How many names did each group come up with? (The number will be an index to their *fluency*.)

How many names did each group come up with of "birds" that are not birds? For example, "jailbird," badminton "birdie," calling a person a "turkey." (This is an indication of flexibility.)

Did any groups create birds that simply do not exist? For example, a red-throated, people-eater? (This is an indication of *originality*.)

2. Mind Stretchers

There are books available on mind-stretching games and activities. What follows is an introduction to the concept.

Materials: pencils and paper; Handout 3.

Activity: Organize the participants into small groups. Give each person a copy of Handout 3. (Participants may want to work individually on the puzzles and games.)

Have the groups develop their own puzzles to exchange with each other.

Invite participants to discuss the following:

How could you use games and puzzles in your classroom?

3. Learning Centres

Learning centres and independent learning are extremely effective with the gifted. This activity will give each participant a chance to come up with a number of ideas to take back to the classroom.

Materials: pencils and paper.

Activity: Organize the participants into small groups. Have each group discuss the design of a learning centre for the gifted in the subject of their choice. Have them include all the following information: objectives of the centre; space required; materials required; resources required; methods of evaluation. Tell the groups to share their ideas with each other.

Invite participants to discuss the following:

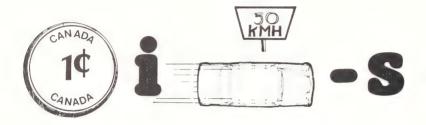
The pros and cons of the various ideas. Could some be improved? Are there some that will not work?

HANDOUT 3: MIND STRETCHERS

- 1. Tom, Joe, Kate, and Sam live in a row of houses with red, pink, blue, and grey roofs. Sam's is blue. Tom has one neighbor, and Joe has two. The red roof is two houses away from the blue. The grey roof is at the end of the block. Sam's only neighbor is an old maid. Whose roof is pink?
- 2. The following series of letters in this quick-perception puzzle stand for something. What should the next letter in the series be?

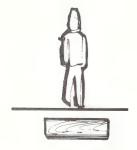
JFMAMJJASON

3. Guess this picture animal's name.



4. What is the meaning of the following word puzzles?

5. What is the meaning of the following picture puzzles?







HANDOUT 3: **ANSWERS**

- 1. Kate's roof is pink.
- 2. The next letter should be D (for December).
- 3. The picture spells "centipede."
- 4. The words are "backward glance" and "crossroads."
- man overboard inside out Jack-in-the-box

4. Stretch A Doughnut*

This is an exercise that helps to develop inventive thinking processes, particularly in the area of redesigning. The following is necessary as an introduction.

- a. Ask how many participants have ever seen themselves in a distorted mirror. Indicate that, in this activity, they will be visualizing things by distorting shapes.
- b. Tell participants that everyday objects have surfaces whose topologies fit a certain genus or category. For example, genus 0 is a sphere, a cube, or an irregular blob. Everyday genus 0 objects could include a football, an orange, a baseball, and a banana.
- c. Genus 1 has a surface with one hole like a doughnut. A few examples are: a vase with a handle, a phonograph record, the number 9, and the letters A and R.
- d. Genus 2 is a two-holed figure: the letter B, eyeglasses, and a two-handled pot.
- e. Genus 3 is a three, or more holed figure: Swiss cheese, a pretzel, a telephone receiver, a pipe holder for 3 or more pipes.

Materials: paper and pencils.

Activity: Give each group a copy of Handout 4 that shows the transformation of a doughnut to a coffee cup. Ask students to imagine how a doughnut might be distorted or twisted in various ways to form a different object.

For example, by squeezing the doughnut in the centre of the outside perimeter, two holes will appear (genus 2). The two holes may suggest eyeglasses or a candlestick holder.

Ask participants to visualize the twisting and stretching of a doughnut. When the design of a different object appears, have them jot down the object on scratch paper.

Encourage participants to sketch on the Handout three or four items they redesigned from a doughnut.

5. How Do You Weigh a Giraffe?

Gifted children are often preoccupied with the one, single, correct answer. This is caused, at least in part, by the pressures put on them to be smart, to live up to the expectations of those around them. It is important to expose them to

questions where there is no one, single, correct answer—if there is a correct answer at all. This will give them an opportunity to let their imaginations soar, challenge, and explore.

Materials: none.

Activity: Ask the group to discuss one or more of the following questions. Emphasize that there is no one, single, correct answer—if there is a correct answer at all.

- 1. How can you weigh a giraffe?
- 2. How do you suppose birds learn to fly?
- 3. How would you teach a hippopotamus to walk a tightrope?
- 4. How could you go to the moon?
- Plan a trip to a make-believe land. Describe the people and places you want to see, the things you want to do.

Invite participants to do the following.

Make up more open-ended discussion questions that will foster the development of imagination and creative thinking skills.

^{*}From "Challenge: Reaching and Teaching the Gifted" (March, 1982).

HANDOUT 4











GLOSSARY

- **bright.** A term used interchangeably with "gifted" meaning clever, quick-witted, and intelligent.
- creativity. The quality of being creative: ability to create, invent, and produce. The term is often associated with the realms of art and literature.
- **divergent thinking.** The seeking of many answers, alternatives, and solutions to any given question or problem.
- elaboration. One of the four components of creative thinking. In this context, it means the ability to expand on ideas, to shape and reshape these ideas until they reach a workable form.
- **enrichment.** The improvement of a curriculum or program by providing students with more varied and intensive material to study.
- **flexibility.** One of the four components of creative thinking. In this context, it means the ability to associate unrelated terms.
- **fluency.** One of the four components of creative thinking. In this context, it means the free flow of ideas. The emphasis is on quantity, not quality, because value judgements on fluency questions stop or reduce the flow of ideas.
- **genius.** A very great natural power of mind; a great natural ability of some kind.
- **gifted.** Possessing natural talents or special abilities; being unusually able and talented.
- itinerant enrichment consultant. A specialist who travels to a number of schools, prescribing programs and assisting teachers in providing enrichment activities to gifted students.
- learning centres. Areas set aside within a school (or a classroom) that are equipped with references, artifacts, books on special topics, learning kits, audio-visual materials, and games of logic and strategy designed to challenge a gifted student's interests and abilities.
- **mentorships.** The process of working in any field of study under the guidance of experiences persons who have access to special facilities and equipment.

- originality. One of the four components of creative thinking. In this context, it means an idea of substance that stands out from the group and is unique unto itself.
- partial pull-out (or enrichment pull-out). The term for gifted students leaving the regular classroom for part of a week to receive enrichment programming. This can include field trips and opportunities to interact with community resource people.
- **talented.** Usually used with the term "gifted." Refers to a person's having natural abilities and special talents; being unusually able in one or more areas.
- **triad model** (or Enrichment Triad Model). Educator Joseph Renzulli's emphasis on three types of enrichment experiences: general exploratory activities; group training activities; and individual and small-group investigations of real problems.

REFERENCES FOR WORKSHOP LEADERS AND TEACHERS

Aiding Basic Creativity. Minneapolis, Minn.: T.S. Denison and Company, 1971.

A book that offers the elementary-school teacher ideas for stimulating and motivating art experiences for pupils at each grade level.

Beyond Core: A Teacher's Guide to the Enrichment of More Able Students in the Intermediate Grades. Victoria, B.C.: British Columbia Ministry of Education, 1975.

Materials based on the philosophy that curriculum enrichment for the gifted should combine with basic facts those in-depth activities that help a student to utilize facts in a realistic, productive, and skill-developing way.

Creative Handbook Ideas. Minneapolis, Minn.: T.S. Denison and Company, 1970.

A sourcebook for the kindergarten teacher of 87 ideas for activities that stress originality and can be performed in every month of the year.

The Creative Teacher: A Practical Guide to Classroom Activities. St. Louis, Mo.: Milliken Publishing Company, 1975.

A series of six idea books, each specific to a grade from one to six. Activities are oriented toward student involvement in learning, creativity, and open-ended group discussions.

Davis, Gray R. *Psychology of Problem-Solving Theory and Practice*. New York, N.Y.: Basic Books, 1973.

The book clarifies the nature of creative, human, problem-solving skills and describes reasonable principles for their improvement. As well as activities, information on tests and measures of creativity are provided.

DeMille, Richard. Put Your Mother on the Ceiling. New York, N.Y.: Viking Press, 1973.

Directed toward early childhood and the primary grades, this book provides imagination games. It allows for teacher and child participation, individual work, or group work.

DeVito, Alfred, and Krockover, Gerald. Creative Sciencing I: A Practical Approach. Boston, Mass.: Little Brown and Company, 1976. Deals with the integration of all areas of the curriculum with the attitudes, ideals, and spirit of science. Contains suggestions for interest centres, task cards, modules, and individualization.

Eberle, Robert F. Scamper. Buffalo, N.Y.: D.O.K. Publishers, 1971.

A booklet that presents games for the development of imagination in elementary-school children.

Igniting Creative Potential. Salt Lake City, Utah: Project Implode, 1971.

Project Implode is based on the notion of multiple-talent development. The book is designed to produce teaching materials and techniques that will turn on the learner and spark productive thinking.

It's Time to Challenge the Gifted. Arlington, Va.: ERIC Reports, 1975.

A guide for teachers with gifted students, it provides about a dozen sample lessons in the areas of folk songs, geometry, and original research. It also explores learning contracts, learning centres, and curriculum modification.

Lacy, Grace. Suggestions for Planning and Providing Programs for the Gifted/Talented/ Creative. Arlington, Va.: ERIC Reports, 1979.

A book that helps educators create differential programs and describes programming aspects. Covers curricula, teacher roles, motivation, and guidance.

Masters, Robert, and Houston, Jean. *Mind Games*. New York, N.Y.: Dell Publishing, 1972.

This book contains a variety of mental games and exercises that can be used to induce children to change their usual state of consciousness to less usual ones.

Millar, Garnet. *Gifted Children*. Edmonton, Alta.: Alberta Education, Planning and Research Branch. 1979.

A research report that deals with the implementation of an enrichment program in a rural Alberta school district. A description of enrichment materials is included.

Mind Expanders. Carson, Calif.: Educational Insights, 1978.

A book of challenging activities designed primarily for the gifted. Intended to be used individually by students, these activities cover the areas of math, creative writing, art, social studies, poetry and book reports, and science. Olson, Adrianne; Neugard, Roberta; and Maselle, Samuel. *How to Get Out of An Egg Without Cracking the Shell.* Oak Lawn: Ideal School Supply, 1978.

Developed from a program for gifted children, this handbook provides a concise source of information on gifted children and offers teachers systematic information in implementing programs. Hundreds of activities and lesson suggestions are described.

Parnes, Sidney J.; Noller, Ruth B.; and Biondi, Angelo M. *Guide to Creative Action*. New York, N.Y.: Charles Scribner's Sons, 1976.

A revised and expanded edition of the *Creative Behavior Guidebook*, this is a reference source and teaching manual for the development of creative behavior.

Polon, Linda, and Pollitt, Wendy. *Creative Teaching Games*. Minneapolis, Minn.: T.S. Denison and Company, 1974.

A book that describes about forty educational games designed to stimulate and motivate children to learn in more enjoyable ways.

Readings in Gifted and Talented Education.
Guilford, Conn.: Special Learning Corporation, 1978.

The articles cover a wide range of topics, all concerned with various aspects of education for the gifted.

Renzulli, J. The Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented. Mansfield, Conn.: Creative Learning Press, 1977.

A summary of Dr. Renzulli's research and observation of gifted students that includes directions to teachers for enriching educational activities. The book outlines concepts, procedures, and techniques to maximize learning for the gifted student.

Rogers, Jan, and Dutton, Susan. *Project ESURG* (Exemplary Systems for the Unique Among Rural Gifted.) Arlington, Va.: ERIC Reports, 1979.

This curriculum provides sample units appropriate for intellectually gifted students in elementary and junior high schools in rural areas.

Sanders, Sandra. Creating Plays With Children. New York, N.Y.: Citation Press, 1970.

Contains tips for teachers on choosing a scene, casting and rehearsing, writing a script,

and acting out a scene. The book stresses student spontaneity and creativity.

Taylor, Roger. *The Gifted and Talented*. Englewood, Calif.: Educational Consulting Associates. 1978.

A guidebook developed from a seminar, this publication contains insights that will help increase effectiveness in developing programs for the gifted. Specific information aids the identification of gifted students and enhances and provides evaluation for ongoing programs.

Torrance, Paul. *The Search for "Satori" and Creativity*. New York, N.Y.: Creative Synergetic Association. 1980.

The book is a distillation of Dr. Torrance's thinking about his lifetime venture into the realm of creativity and provides disciplined procedures for fostering creative behavior.

Torrance, Paul, and Myers, R.R. *Creative Learning and Teaching*. New York, N.Y.: Harper and Row, 1970.

Primarily, this book offers ways that a teacher can foster creativity in the classroom, though it also deals with teacher creativity and the provision of good learning environments.

Valeski, Thomas E. Application for Program Prior Approval Gifted and Talented Program 1977-78. Phoenix, Ariz.: Arizona Department of Education, 1979.

A review and explanation of the 1977-78 program for gifted and talented students in the Phoenix Union High School System. The book includes programming information on seminar classrooms, independent study, interdisciplinary seminars, and internship programs.

Viola, Louisa Kramer. *Poetry Activities for Gifted Middle School Children*. Arlington, Va.: ERIC Reports, 1980.

An outline of the value of using poetry with the gifted. Gives activities designed for direct student use and includes a bibliography.

The Yellow Pages of Learning Resources. Cambridge, Mass.: MIT Press, 1972.

The book invites the student reader to discover the city as a learning resource, and stimulating the curiosity to find out what can be learned from various people, places, and things within an urban environment.

GETTING THE MOST FROM A VIDEO PRESENTATION

An educational television program can be an effective and stimulating learning resource. Because of its ability to convey information and meaning through scenes and sounds, television is one of the most effective classroom tools at your disposal. In addition, support materials are available for a number of ACCESS NETWORK programs. Many of these materials—which include student teacher guides and manuals, slides, transparencies, filmstrips, posters, etc.—contain suggestions for previewing and post-viewing activities.

Many teachers have found that the effectiveness of video programming can be enhanced in the following ways:

- Use the stop and pause buttons frequently to highlight program segments. This will help break the
 passive viewing habit created in students by commercial TV and focus their attention on your
 purpose for showing the program(s).
- Use the counter to prepare for the viewing session. Set it to zero at the start of a program. This
 will help pinpoint the location of segments to be reviewed later. You can then create a log by
 jotting down the counter numbers that correspond to important segments.
- 3. Be specific about viewing objectives *before* showing the program. Students will be able to focus their attention better if they are aware of what to look for in a videotape. Prepare a list of guideline questions on the blackboard or on photocopied handouts. (Be sure to cover all of the questions in post-viewing activity.)
- 4. Since educational television programs generally include more material than can be digested in a single viewing, show the program in its entirety once and then, after clarifying vocabulary difficulties and reviewing specific learning objectives, show selected portions a second, even a third, time. Again, the stop and pause buttons can be used to allow students to take notes—or focus attention on a particular item of importance.
- 5. Television programs consist of both audio and video signals, and viewers often need to be stimulated in order to derive maximum information from both. During the second viewing of a program segment, you can stimulate the development of viewing and listening skills by showing the picture but turning off the sound and asking for recall of audio information. Alternatively, leave the sound on but eliminate the picture.
- **6.** Both for viewing comfort and for note-taking convenience, TV should not be viewed in a dark room. However, light can also be a problem, so the television set should be located to avoid window reflection on the screen. To eliminate ceiling-light reflection, tilt the set forward slightly.
- 7. Ensure that all students have a clear line of sight to the set. If necessary, alter seating arrangements to give every student a satisfactory view of the screen.
- 8. Adjust the controls of the TV set to ensure good color balance, adequate brightness, and contrast.
- In some cases, it is useful to have tapes and equipment available for independent viewing by individual students.

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